

**PRACTICE TEST 4, CHAPTER 7, 2.8, 9.1, 9.2****Beginning Algebra** by Elayn Martin-Gay, 6<sup>th</sup> edition*Find the domain of each rational expression.*

1.  $f(x) = \frac{x-3}{2x-8}$

*Simplify*

2.  $\frac{5x-15}{25x-75}$

3.  $\frac{x+5}{x^2+x-20}$

*Perform the indicated operations. Simplify the answer if possible.*

4.  $\frac{3x+4}{x-3} + \frac{x+7}{x-3}$

5.  $\frac{a^2-4a+4}{a^2-4} \div \frac{a-2}{a+3}$

6.  $\frac{9x+18}{3x^2+x} \cdot \frac{3x^2+13x+4}{x^2-16}$

7.  $\frac{5x}{x+2} - \frac{3x-4}{x+2}$

*Solve each equation and check your solution.*

8.  $5 + \frac{4}{x} = 1$

9.  $\frac{2a}{a+2} - 5 = \frac{7a}{a+2}$

10.  $\frac{3}{x+3} = \frac{12x+19}{x^2+7x+12} - \frac{5}{x+4}$

*Solve the inequality. Graph the solution set on a number line and write the solutions in interval notation.*

11.  $5x \leq 2x - 1$

12.  $4x - 2 > 6$

13.  $-2 < x - 3 \leq 4$

14.  $3x+1 < 4$  and  $2x+4 \geq -4$

15.  $5x-3 > 2$  or  $-2x \geq -6$

16.  $x > 4$  or  $x \geq -2$

17.  $-5 \leq 2x + 1 < 13$

Solve each equation.

18.  $|4x - 7| = 5$

19.  $|3x + 6| - 7 = 8$

20.  $|2 - 3x| = |x + 2|$

**MATH 0304**  
**PRACTICE TEST 4 ANSWERS**

1. $(-\infty, 4) \cup (4, \infty)$	12. $(2, \infty)$
2. $\frac{1}{5}$	13. $1 < x \leq 7; (1, 7]$
3. $\frac{1}{x-4}$	14. $[-4, 1)$
4. $\frac{4x+11}{x-3}$	15. $(-\infty, \infty)$
5. $\frac{a+3}{a+2}$	16. $[-2, \infty)$
6. $\frac{9(x+2)}{x(x-4)}$	17. $[-3, 6)$
7. 2	18. $3; \frac{1}{2}$
8. -1	19. -7; 3
9. -1	20. 0, 2
10. 2	
11. $(-\infty, \frac{-1}{3}]$	